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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Shantanu Sarkar

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EXAMINER

DYKE, KERRI M

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/035,573	SARKAR ET AL.	
	Examiner	Art Unit	
	Kerri M. Dyke	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☒ Claim(s) 37-54 and 58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see last paragraph on page 14 – second full paragraph on page 15, filed 12/14/2005, with respect to the rejection(s) of claim(s) 1-55 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of new prior art.

Claim Objections

2. Applicant is advised that should claims 19-36 and 57 be found allowable, claims 37-54 and 58 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Claims 37-54 and 58 are substantial duplicates of claims 19-36 and 57 because logic encoded in media is the means disclosed in the specification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 7, 9-13, 15-23, 25, 27-31, 33-41, 43, 45-49, and 51-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raciborski et al. (US 6,658,000) in view of Shaffer et al. (US 6,526,041, provided on IDS).

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5. In regards to claim 1, Raciborski discloses a method for providing an audio stream in a voice over Internet Protocol (VoIP) environment, comprising:

- a. Determining a quality value for each of a plurality of audio streams;
- b. Selecting one of the audio stream based on the quality values for the audio streams;
- c. Facilitating playing of the selected audio stream.

Raciborski discloses in column 3 lines 19-23 choosing a server based upon the required quality of service. This implicitly discloses that there are multiple streams, (at least one from each server), quality values are assessed for each server, the quality values are compared to a required threshold, and one server is chosen that at least equals the required service level. (Since each server is assigned a quality value it follows that each stream from that server, in the case of multiple streams, is also assigned that same value.) Column 14 lines 8-17 also discloses that quality values can be determined for each path (stream) to the server. It is also disclosed in column 3 lines 13-16 that the audio stream may be played.

Raciborski does not disclose that the audio streams are communicated in a VoIP format or facilitating playing of the selected audio stream to a call on hold.

Shaffer discloses compatibility with H.323, a popular VoIP standard in column 2 lines 56-57. Therefore, when appropriate, the signaling must be a VoIP format. Column 1 line 65 – column 2 line 2 discloses playing an audio stream to a call on hold.

It would have been obvious to one of ordinary skill in the art to modify Raciborski's audio streaming in order to play the audio to a call on hold, as taught by Shaffer, because there is a desire for music-on-hold systems, as taught by Shaffer in column 1 lines 51-52 and there is a

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desire to play high quality streams while being downloaded, as taught by Raciborski in column 1 lines 45-46.

6. In regards to claim 2, Raciborski and Shaffer disclose the method of claim 1, wherein the audio stream comprises a music-on-hold channel from a music-on-hold server. Figure 5 of Shaffer discloses a music-on-hold system, 50.

7. In regards to claim 3, Raciborski and Shaffer disclose the method of claim 1, wherein the quality value for an audio stream comprises at least one of packet jitter and packet loss for the audio stream. Column 21 lines 3-21 of Raciborski list some of the parameters taken into consideration when determining the quality value. Lines 20-21 allow for any other error indication and/or status information, which includes packet loss and jitter.

8. In regards to claim 4, Raciborski and Shaffer disclose the method of claim 1, further comprising selecting the audio stream comprising a highest quality value. Column 24 lines 1-10 of Raciborski disclose ranking the servers based upon the quality values. A server is then chosen from this ranked list. This implicitly discloses that servers are chosen according to the ranked list, i.e. the one with the highest quality first, because otherwise there would be no reason or need to create a ranked list.

9. In regards to claim 5, Raciborski and Shaffer disclose the method of claim 1, wherein the quality value for an audio stream comprises a current value for the audio stream determined based on real-time performance of the audio stream at a point at least proximate to a device playing the selected audio stream to the call on hold. Raciborski discloses in column 13 line 61-column 14 line 7 periodically taking new measurements of the performance and reevaluating the quality value. At the time of the measurement the values are based upon current values of real-

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time performance. It is also disclosed that the analysis is performed from the client computer respective. The end device is certainly considered to be proximate to itself.

10. In regards to claim 7, Raciborski and Shaffer disclose the method of claim 1, further comprising determining the quality value for each audio stream based on a sliding window of quality metrics for the audio stream. Raciborski discloses ranking the relative quality between servers in column 10 lines 63-67. The window of quality metrics adjusts depending on the relative quality between the servers. A server with only adequate quality may have excellent quality based upon the sliding window because the server it is being compared to has low quality.

11. In regards to claim 9, Raciborski and Shaffer disclose the method of claim 1, further comprising presenting to users for selection only audio streams with a quality value above a threshold. Column 19 lines 36-67 disclose evaluating and presenting only those servers which are above a quality threshold.

12. In regards to claim 10, Raciborski and Shaffer disclose the method of claim 1, wherein determining the quality value for each of the plurality of audio streams comprises: receiving the plurality of audio streams; and monitoring each of the quality streams based on at least one of packet jitter and packet loss of the audio stream. Raciborski discloses that the quality values are determined using client-side network analysis in column 13 lines 61-62. The audio streams must be received in order to for analysis to be done on them. Column 21 lines 1-21 disclose the types of values that may be monitored including packet loss and jitter, which are included as other status information.

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13. In regards to claim 11, Raciborski and Shaffer disclose the method of claim 1, wherein facilitating playing of the selected audio stream to a call on hold comprises communicating at least an identifier of the selected audio stream to an endpoint handling the call on hold.

Raciborski discloses using the preference and quality information to redirect the endpoint handling the call (client computer) to the appropriate audio stream in column 16 lines 12-18.

Redirection includes identifying the stream and its location.

14. In regards to claim 12, Raciborski and Shaffer disclose the method of claim 1, wherein determining the quality value for each of the plurality of audio streams comprises receiving the quality values for the audio streams from an upstream device in an Internet Protocol network.

Raciborski discloses the values are transmitted from the viewer proxy to the content object manager in order to facilitate selecting a content exchange in column 13 lines 61-66. The values are transmitted across the network and are therefore received at the final destination from an upstream device.

15. In regards to claim 13, Raciborski and Shaffer disclose the method of claim 12, wherein the upstream device comprises an edge router of the Internet Protocol network. Edge routers are used to route packets between networks. The viewer proxy and the content server are not in the same network, therefore the values must have traveled through an edge router.

16. In regards to claim 15, Raciborski and Shaffer disclose the method of claim 1, further comprising receiving a list of audio streams, the plurality of audio stream including at least one of the audio streams identified by the list. Raciborski discloses compiling a list of available audio streams from which the selected audio stream is chosen in column 2 lines 57-62.

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17. In regards to claim 16, Raciborski and Shaffer disclose the method of claim 15, wherein the list is generated by a call manager. Raciborski discloses that the list is generated by the client computer in column 2 lines 57-58. Shaffer discloses that the client computers function as a call manager in column 1 lines 55-61.

18. In regards to claim 17, Raciborski and Shaffer disclose the method of claim 1, further comprising generating a list of locally used audio stream, the plurality of audio streams including at least one of the locally used audio streams. Raciborski discloses a list of locally used audio streams, which are included in the plurality of audio streams, in col. 8 line 65 – col. 9 line 12.

19. In regards to claim 18, Raciborski and Shaffer disclose the method of claim 1, further comprising: identifying a poor quality audio stream based on the quality value for the audio stream; and communicating an identifier of the poor quality stream of an upstream router for discard of the poor quality audio stream. Raciborski discloses identifying high quality audio streams for further testing in column 24 lines 22-29. Therefore, poor quality audio streams are also identified and disqualified from further testing. This decision must be communicated upstream in order to remove the poor streams from the list.

20. In regards to claim 56, Raciborski and Shaffer disclose the method of claim 1, wherein facilitating playing of the selected audio stream to a call on hold comprises playing the selected audio stream at an endpoint. Shaffer discloses playing an audio stream to a call on hold in column 3 lines 55-58.

21. Claims 19-23, 25, 27-31, 33-36, 57, 37-41, 43, 45-49, 51-54 and 58 disclose the same limitations as claims 1-18 and 56 with the inclusion of logic encoded in media operable to carry out the method steps. (Logic is the means disclosed in the specification.) Shaffer discloses logic

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encoded in media operable to implement the music-on-hold system in column 3 line 38. Also, Raciborski discloses using a computer to determine and store the quality values in column 19 lines 19-24. A computer works by having logic encoded in media with instructions for carrying out the determination and then storing the results. Therefore, claims 19-54, 57, and 58 are rejected upon the same grounds as claims 1-18 and 56.

22. In regards to claim 55, Raciborski discloses a method for providing music-on-hold at an endpoint of an Internet Protocol network, comprising:

- d. Receiving a plurality of audio streams;
- e. Repetitively determining a real-time quality value for each of the audio streams based on at least one of packet jitter and packet loss for the audio stream;
- f. selecting one of the audio streams as a high quality stream based on the real-time quality values for the audio streams; and
- g. Playing the high quality stream.

Raciborski discloses in column 3 lines 19-23 choosing a server based upon the required quality of service. This implicitly discloses that there are multiple streams, (at least one from each server), quality values are assessed for each server, the quality values are compared to a required threshold, and one server is chosen that at least equals the required service level. (Since each server is assigned a quality value it follows that each stream from that server, in the case of multiple streams, is also assigned that same value.) Column 14 lines 8-17 also discloses that quality values can be determined for each path (stream) to the server. It is also disclosed in column 3 lines 13-16 that the audio stream may be played. Column 21 lines 3-21 of Raciborski list some of the parameters taken into consideration when determining the quality value. Lines

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20-21 allow for any other error indication and/or status information, which includes packet loss and jitter. Raciborski discloses in column 13 line 61- column 14 line 7 periodically taking new measurements of the performance and reevaluating the quality value. At the time of the measurement the values are based upon current values of real-time performance.

Raciborski does not disclose:

- h. The plurality of audio streams are music-on-hold streams
- i. Selecting a stream in response to a call being placed on hold
- j. Playing the audio stream to a call on hold.

Shaffer discloses playing a music-on-hold stream to a call in response to the call being placed on hold in column 1 line 65 – column 2 line 2.

It would have been obvious to one of ordinary skill in the art to modify Raciborski's audio streaming in order to play the audio to a call on hold, as taught by Shaffer, because there is a desire for music-on-hold systems, as taught by Shaffer in column 1 lines 51-52 and there is a desire to play high quality streams while being downloaded, as taught by Raciborski in column 1 lines 45-46.

23. Claims 6, 8, 24, 26, 42, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raciborski et al. (US 6,658,000) in view of Shaffer et al. (US 6,526,041) further in view of Lamarque, III et al. (US 6,690,651).

24. In regards to claim 6, Raciborski and Shaffer disclose the method of claim 1, wherein the selected audio stream comprises a first audio stream, but not further comprising: in response to at least degradation of the first audio stream below a threshold, selecting a second audio stream

based on a then current quality value for each of the remaining audio streams; and facilitating playing the second audio stream.

Lamarque discloses selecting a new path if the current path falls below a quality threshold in column 4 lines 5-7.

It would have been obvious to one of ordinary skill in the art to modify Raciborski and Shaffer's music-on-hold quality system in order to include selecting a second signal if the first experiences degradation, as taught by Lamarque, because doing so allows for minimizing problems with quality of service, disclosed in column 1 lines 57-59 of Lamarque.

25. In regards to claim 8, Raciborski and Shaffer disclose the method of claim 6, wherein facilitating playing of the second audio stream comprises switching from the first audio stream to the second audio stream at an endpoint playing the first and second audio streams to the call on hold. Lamarque discloses that the endpoint has the option of switching the path in column 4 lines 7-9.

26. Claims 24, 26, 42, and 44 disclose the same limitations as claims 6 and 8 with the inclusion of logic encoded in media operable to carry out the method steps. (Logic is the means disclosed in the specification.) Shaffer discloses logic encoded in media operable to implement the music-on-hold system in column 3 line 38. Therefore, claims 19-54, 57, and 58 are rejected upon the same grounds as claims 1-18 and 56.

27. Claims 14, 32, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raciborski et al. (US 6,658,000) in view of Shaffer et al. (US 6,526,041) further in view of Lamarque, III et al. (US 6,690,651) further in view of McCormack et al. (US 6,853,719).

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28. In regards to claim 14, Raciborski and Shaffer disclose the method of claim 1, further comprising: selecting a second audio file in response to at least the quality values for the audio streams being below a threshold value; and facilitating playing of the second audio file to a call on hold (see claim 6).

Raciborski, Shaffer, and Lamarque do not disclose the second audio file being a locally stored audio file.

McCormack discloses selecting between a remote or local music-on-hold server in column 2 lines 32-36. Column 1 lines 40-42 disclose that local music-on-hold servers are preferred because remote servers often result in unacceptable results.

It would have been obvious to one of ordinary skill in the art to modify Raciborski and Shaffer's music-on-hold quality system in order to include choosing a local server in response to low quality, as taught by McCormack because doing so provides improved quality, as disclosed by McCormack in column 1 lines 57-58.

29. Claims 32 and 50 disclose the same limitations as claim 14 with the inclusion of logic encoded in media operable to carry out the method steps. (Logic is the means disclosed in the specification.) Shaffer discloses logic encoded in media operable to implement the music-on-hold system in column 3 line 38. Therefore, claims 19-54, 57, and 58 are rejected upon the same grounds as claims 1-18 and 56.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Dyke whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Friday, 7:00 am - 3:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kmd


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SUPERVISORY PATENT EXAMINER
JULY 10, 2006 2/2/06